



CENTRAL WEST EDUCATION DIVISION

2025 MALAWI SCHOOL CERTIFICATE OF EDUCATION MOCK EXAMINATION

BIOLOGY

Subject Number: M022/II

PAPER II MARKING KEY

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1. - Take two potted plants and label them as A and B. **(1)**
- Remove all the leaves in the plant labelled B and leave A intact. **(1)**
- Cover both plants with a polythene bag **(1)** by tying with a string at the bottom of the stem.
- (1)** Leave the set ups A and B in a sunny place for 3 hours and observe. **(1)**
- Collect and test any liquid which collects in the plastic bag in set up A with anhydrous chloride paper. **(1)**
- It is expected that the anhydrous cobalt chloride paper which is blue changes to pink **(1)**, indicating the presence of water. **(1)**
- If water collects in the plastic bag in set up A but not in B, this shows that water is given off mainly by leaves in a plant. **(1)**
- It can be concluded that transpiration occurs mainly through leaves. **(1)**

(10x1) 10marks

2.- ¹Cut three equal pieces of liver

¹Pour 10ml hydrogen peroxide in test tubes

¹Label retubes A, B and C

¹Rush one piece of liver, chop the other and leave the third intact

¹Put in test tubes A, B and C respectively

¹Record time taken for foam to fill each test-tube

¹Compare

In A foam will fill up quickly then B and lastly C¹

This shows that the reaction was fast in crushed liver and slowest in intact liver¹.

Hence particle size affects enzyme activity¹

3. a. To find out which surface of the leaf contains more stomates. **(1)** **(1 mark)**

b. i. Upper surface. **(1)** **(1 mark)**

ii. There is reduced loss of water **(1)** on the upper surface, since there is a small number of stomata **(1)** (2 marks)

c. The lower surface of the leaf contains more stomata than the upper leaf surface. **(1)**

(1 mark)

d. When the guard cells absorb water **(1)**, they become turgid **(1)**. The inner walls of the guard cells have a thickened cellulose cell wall **(1)**. When extending, this thickening causes them to bulge **(1)**, thereby opening the stomata **(1)**. **(5x1) (5 marks)**



4. – (a) drawing of a labelled grass leaf.

1 mark for correct drawing

2 mark for correct labels **(3 marks)**

(b) A-desert (1)

B - Savanna woodland. (1)

(C)-**A** is Succulent and **B** is not

- **A** has thorns and **B** has not
- **A** has thick Cuticle and has **B** has a thin cuticle **(any 2x1) (2 marks)**

(d)-It is thick to store water for future use

- It has thick cuticle to reduce water loss or transpiration

- Has thorns for protection from browsers. **(any 1x2) (2 marks)**

(e) A – Xerophytes

(1 mark)

(10 marks)

END OF MARKING KEY

